



NCDOT Policies on Bicycle and Pedestrian Accommodation

*NCAMPO Conference
May 12, 2016*



Agenda and Goal

Agenda

- Overview
- Pedestrian Policy
- Bridge Policy
- Greenway Accommodation
- Complete Streets Policy
- Legislative Context
- Questions and Discussion

Goal

- Attendees will be familiar with the policies and guidelines that govern pedestrian and bicycle accommodation within NCDOT projects.



Policy Context for Bicycle/Pedestrian Accommodations



Overview of Bicycle/Pedestrian Accommodations

A variety of policies exist concerning accommodation of bicycle/pedestrian facilities within NCDOT projects (see <http://www.ncdot.gov/bikeped/lawspolicies/>)

- **Pedestrian Policy (1993, 2001)**

- Allows NCDOT to participate with municipalities in construction of sidewalks as incidental features of highway improvement projects. Municipality is required to maintain sidewalk, and a cost share approach is utilized.

- **Bridge Policy (1994)**

- Establishes design elements for bridges, and addresses sidewalks and bicycle facilities on bridges. Cost share established by reference to Pedestrian Policy.

- **Greenway Accommodation (1994, 2015)**

- *Administrative Action to Include Greenway Plans (1994)* requires NCDOT to consider greenways/crossings during the highway planning process, and allow inclusion of greenway crossing/element as incidental to the highway expenditure.
- *Guidelines for Inclusion of Greenway Accommodations Underneath a Bridge as Part of a NCDOT Project (2015)* clarify the 1994 *Administrative Action*. They provide a process for NCDOT staff to utilize when determining if a planned greenway should be accommodated under a bridge, and establish cost share provisions if the accommodation is made.

- **Complete Streets Policy (2009)**

- Directs NCDOT to consider and incorporate all modes when building new projects or making improvements to existing infrastructure.

* Parenthetical year is original publication, most recent update of policy/document



Pedestrian Policy

- *“In the planning, design and construction of TIP transportation projects, the DOT shall consider the needs of pedestrians and will not create hazards to pedestrian movement.”*
- This is intended to allow municipalities to have the flexibility to add pedestrian facilities as part of the project or in the future.
- Municipality or County must notify NCDOT about the desire for a sidewalk and will be responsible for evaluating need, public involvement, maintenance, and liability.
- The municipality is responsible for ROW/easement and utility relocation where outside the berm of the roadway project.

MUNICIPAL POPULATION	PARTICIPATION	
	DOT	LOCAL
> 100,000	50%	50%
50,000 to 100,000	60%	40%
10,000 to 50,000	70%	30%
< 10,000	80%	20%



Pedestrian Policy Details

- Standard cross section follows AASHTO and includes 5' sidewalks and curb ramps.
- Includes all pedestrian facilities, such as multi-use paths.
- Betterments are local cost responsibilities (i.e. decorative pavers, wider sidewalks).
- DOT will fund sidewalks on both sides of bridges with 200' length or less.
- DOT will study and consider sidewalks on both sides for longer bridges, but may only fund sidewalk on one side for bridges with longer length.
- NCDOT will pay for 100% of the cost to replace an existing sidewalk which is removed to facilitate the transportation project.



Bridge Policy

- Sidewalks shall be included on new bridges with curb and gutter approach roadways that are without control of access; in some cases, only one side may warrant a sidewalk.
- A determination on providing sidewalks on one or both sides of new bridges will be made during the planning process according to the NCDOT Pedestrian Policy Guidelines. The same cost share applies.
- The Pedestrian Policy provides the reason pedestrian facilities should be considered on bridges: “Because bridges are so expensive and because they often have useful lives over fifty years, bridges should be given special consideration when pedestrian travel is anticipated.”



Bridge Policy Details

- Where sidewalk currently exists on a bridge, it will be replaced at NCDOT cost.
- Sidewalks should not be included on controlled access facilities.
- When a sidewalk is justified, it shall be a minimum of 5'-6" wide.
- Cost share generally includes the cost of sidewalk construction. NCDOT provides the "offset" (shoulder width) regardless of sidewalk construction.
- Rail Heights:
 - A minimum handrail height of 42" is required where pedestrians will be present.
 - Where bicycles will travel next to the rail, a minimum handrail height of 54" is included in the policy. However, AASHTO only requires 42"-48" railing height depending on travel speeds and other factors.
- When a "bikeway" is required, the bridge shall be designed in accordance with AASHTO standard bicycle accommodations to give safe access to bicycles where feasible.



Greenway Accommodation: Background and Bicycle and Pedestrian Division Role

- The 1994 NCDOT *Administrative Action to Include Greenway Plans* establishes the consideration of greenways/crossings during the highway planning process, and allows inclusion of greenway element as incidental to the highway expenditure.
- The 2015 *Guidelines for Inclusion of Greenway Accommodations Underneath a Bridge as Part of a NCDOT Project* clarifies the *Administrative Action*, provides a process for NCDOT staff to utilize when determining if a planned greenway should be accommodated, and establishes cost share provisions if the accommodation.
- Under the Guidelines, the Bicycle and Pedestrian Division determines if the proposed greenway underneath a bridge is justified, and provides documentation to the Project Team. The evaluation will include but is not limited to the following:
 1. Is it part of a locally or state adopted plan?
 2. Does it have a transportation benefit?
 3. Is a greenway underneath the bridge the preferred/best crossing in context of the situation?
 4. Has the local government requested the accommodation?



Greenway Accommodation: Project Team Considerations

The Project Team Will:

1. Evaluate if greenway accommodation will result in impacts that, from the Project Team's perspective, are unacceptable
 2. Evaluate if the accommodation is acceptable/feasible from an engineering perspective
 3. Have discretion to make accommodations up to:
 - a) Adding 20 feet of bridge length
 - b) Adding up to 3 feet of additional height if Hydraulic requirements can be met

*Items affecting cost will be subject to sections C & D of Guidelines
 4. Ensure all maintenance of the greenway will be the responsibility of the Local Government
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- If the Project Team recommends that the greenway not be included, the Project team will provide background and recommendations to the Upper Management Team who will make the final determination.
 - The Upper Management Team is: Director of Bicycle & Pedestrian Division, Division Engineer, Chief Engineer's Office, Technical Services Division.



Greenway Accommodation: Cost Responsibility

1. Existing Greenway/Multi-Use Trail: NCDOT will pay 100% of **in-kind replacement** costs. If improvement is requested, the cost responsibility is described in item 3 below.
2. Proposed Greenway where “**Need Has Not Been Established**”: Accommodation is considered betterment, local interest pays 100%.
3. Proposed Greenway where “**Need Has Been Established**”:
 - Cost established by developing 2 prelim. designs; one with the greenway, one without.
 - NCDOT participation will be lesser of (1) sum of accommodation costs up to \$50,000 per bridge, or (2) 5% of total project.
 - Any costs exceeding NCDOT participation included above will be considered betterment, and a sliding scale cost share will be used to determine LGA (municipality/county/other) and NCDOT remaining cost share.



Greenway Accommodation: Cost Responsibility, Continued

Municipalities will cost share as follows (similar to Pedestrian Policy):

Municipality Population	DOT Participation	Municipal Participation
>100,000	50%	50%
50,000 to 100,000	60%	40%
10,000 to <50,000	70%	30%
< 10,000	80%	20%

Counties/Other Interested Parties will cost share as follows:

County/Other Population	DOT Participation	County/Other Participation
>60,000	60%	40%
40,000 to 60,000	70%	30%
20,000 to <40,000	80%	20%
< 20,000	90%	10%

* Information about agreement timing is outlined in Guidelines



Complete Streets Policy

- Requires that NCDOT consider multimodal alternatives in the design and improvement of all appropriate transportation projects within a growth area of a town or city unless exceptional circumstances exist.
- Routine maintenance projects may be excluded if funding is not available.
- 2012 Planning and Design Guidelines further describe approach and decision-making process.
- Cost responsibilities not described in policy or guidelines.



Available at:
<http://completestreetsnc.org/>



URBAN/SUBURBAN MAIN STREET

PLAN VIEW



KEY ELEMENTS

- May function as an arterial, collector or local street. May function as a collector serving as a primary thoroughfare for traffic circulation in a limited area. May function as a local street for an outlying business district.
- Designed to carry vehicles at low speeds.
- A destination street for a city or town, serving as a center of civic, social and commercial activity.
- Serves substantial pedestrian traffic as well as transit and bicycles.
- Characterized by wide sidewalks, crosswalks and pedestrian amenities, due to emphasis on pedestrian travel.
- Bicycle lanes are allowed but typically not necessary on these streets due to lower speeds and volumes and the desire to keep pedestrian crossing distances to a minimum.

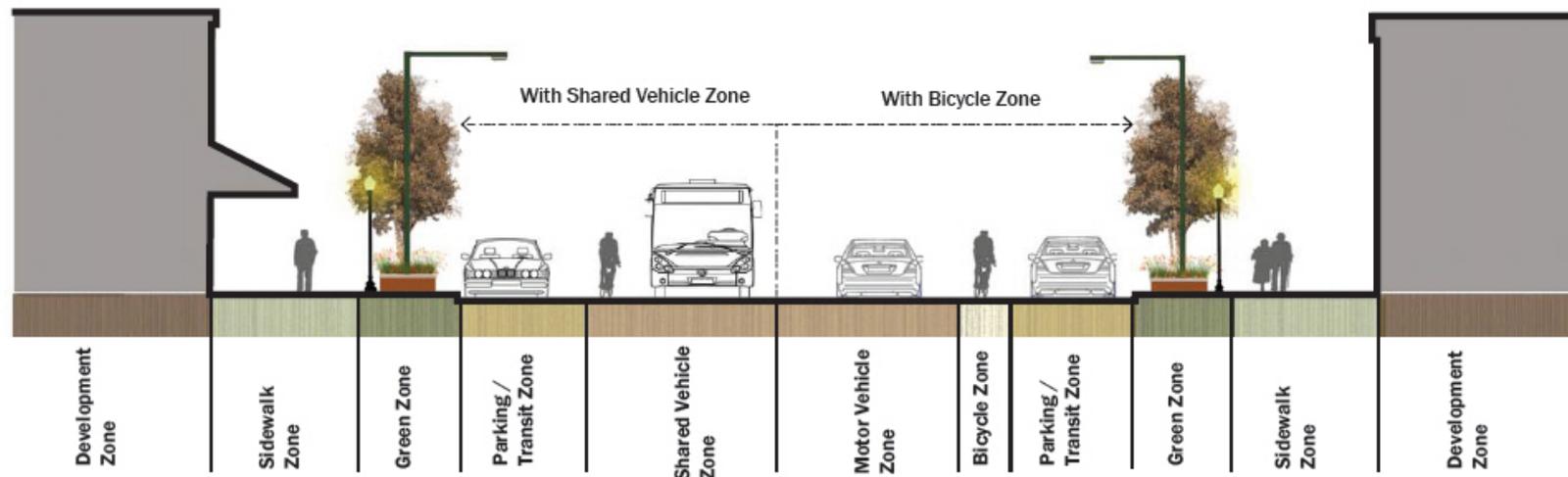


STREET CROSS-SECTION ZONES

- **Sidewalk Zone:** The pedestrian walk area is of sufficient width to allow pedestrians to walk safely and comfortably. Pedestrians are the priority on a main street.
- **Green Zone:** Consists of the area between the sidewalk zone and curb. Includes street trees and other landscaping, as well as interspersed street furnishings and pedestrian-scale lighting in a hardscaped amenity zone.
- **Parking/Transit Zone:** Accommodates on-street parking and transit stops. Width and layout may vary.
- **Bicycle Zone:** A zone for bicyclists separate from vehicular traffic.
- **Motor Vehicle / Shared Vehicle Zone:** The primary travel way for vehicles. A shared vehicle zone has mixed traffic (cars, trucks, buses and bicycles).
- **Development Zone:** Development should be pedestrian-oriented with narrow setbacks and an active street environment.

URBAN/SUBURBAN MAIN STREET

ILLUSTRATIVE STREET CROSS-SECTION



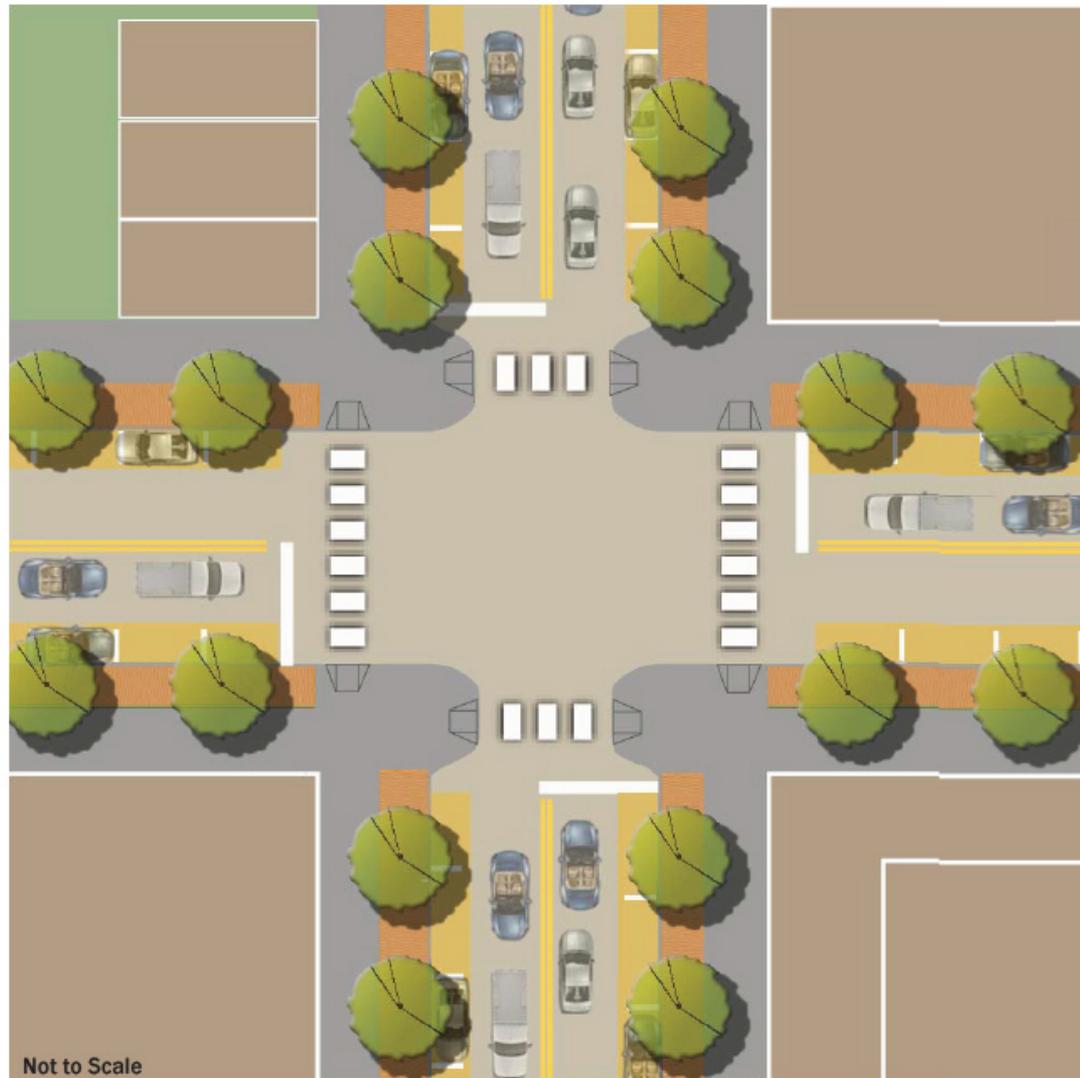
STREET COMPONENT DIMENSIONAL GUIDELINES

	Sidewalk Zone (feet)	Green Zone (feet)	Parking /Transit Zone (feet)	Motor Vehicle / Shared Vehicle Zone (lane width- feet)	Bicycle Zone (feet)
Central Business District	10' - 12' 12' - 20' in high volume pedestrian areas	6' - 8'	8' - 10'	10' - 13' (see note 4)	6' lanes (see note 4)
Urban Center / Suburban Center	8' - 12' 12' - 20' in high volume pedestrian areas	6' - 8'	8' - 10'	10' - 13' (see note 4)	6' lanes (see note 4)
Suburban Corridor / Urban Residential / Suburban Residential	8' - 10' 12' - 20' in high volume pedestrian areas	6' - 8'	8' - 10'	10' - 13' (see note 4)	6' lanes (see note 4)

NOTES

1. Sidewalk zone should typically extend to the front of buildings. Sidewalks are the most important element on a main street, because pedestrians are the priority. Therefore, the sidewalk width should typically be at least 10', unobstructed.
2. Green zone may include hardscaping, landscaping, street trees, lighting, and related pedestrian/bicycle/transit amenities. Hardscaping (with street trees in appropriately-designed planters) is typical for access to on-street parking and transit.
3. Parking is expected on main streets. Parking zone dimension may vary depending upon type of parking provided. Angle parking is allowed, preferably reverse angle parking. Angle parking will require a wider dimension than shown.
4. Shared lanes are the preferred treatment, due to the low speeds. In this case, travel lanes should be 13' to allow for maneuvering and opening car doors. Shared lane markings can be used on streets < 35 mph. If bicycle lane is provided, it should be 6' wide, and motor vehicle lane should be narrowed to 10'.

MAIN STREET INTERSECTION



STREET ZONES

-  **Development Zone:** Development should be pedestrian-oriented with narrow setbacks and an active street environment.
-  **Sidewalk Zone:** The pedestrian walk area is of sufficient width to allow pedestrians to walk safely and comfortably. Pedestrians are the priority on a main street.
-  **Green Zone:** Consists of the area between the sidewalk zone and curb. Includes street trees and other landscaping, as well as interspersed street furnishings and pedestrian-scale lighting in a hardscaped amenity zone.
-  **Motor Vehicle/Shared Vehicle Zone:** The primary travel way for vehicles. A shared vehicle zone has mixed traffic (cars, trucks, buses and bicycles).
-  **Parking/Transit Zone:** Accommodates on-street parking and transit stops. Width and layout may vary.

Legislative Context

H 97 – raised questions concerning bicycle and pedestrian accommodations incidental to NCDOT projects

SECTION 29.5.(a) G.S. 136-66.3(e) reads as rewritten:

"(e) Authorization to Participate in Project Additions. – Pursuant to an agreement with the Department of Transportation, a county or municipality shall reimburse the Department of Transportation for the cost of all improvements requested by the county or municipality, including additional rights-of-way, streets, highway improvement projects, or other transportation system improvements approved by the Board of Transportation under G.S. 143B-350(f)(4), that are in addition to those improvements that the Department of Transportation would normally include in the project. Requests for safety enhancements or efforts to facilitate the flow of traffic shall not be considered improvements under this subsection unless the enhancement or effort is in excess of the standard required by law."

Several NCDOT bicycle/pedestrian accommodation policies already address this requirement with cost-sharing guidelines for “normal” improvements and local responsibility for “betterments.” Therefore, H97 affirmed existing practices.



Questions



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